

Save The Bay

Meaningful Watershed Education
Experiences for Students

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Target Audience: Watershed Education Program

- 5th through 12th graders
- Alameda, Marin and San Francisco counties
- Underserved students (40% and more participate in free/reduced lunch)

Watershed Education Program: Goals and Objectives

- Provide experiential Watershed Education for 12 classes from underserved communities in Alameda, Marin and San Francisco Counties
- All 12 classes will participate in the full suite of education programs
- Full program suite consists of
 - Pre-field trip, in-classroom presentation
 - Canoes In Sloughs
 - Community-based Restoration
 - Activities for teachers from our online San Francisco Bay Watershed Curriculum (correlated to curricular standards!)

Watershed Education Suite I: Preparatory and Follow-up

Pre-trip, in-classroom presentation

- One-hour preparation using maps, hands-on activities and a slideshow to get students ready
- Sliding scale from \$10 to \$60 per presentation

Online Watershed Curriculum

- 29 experiential activities designed to easily incorporate Bay-specific topics into lesson plan
- Curriculum meets California Science Framework and State Science Standards
- Curriculum can be searched by grades and subject

Watershed Education Suite II: Field Trips

Canoes In Sloughs

- Day-long experiential canoe trip on the Bay
- Introduces & connects students to their local marshes and the greater SF estuary
- 15 to 27 student participants
- Sliding scale per student from \$5 to \$35
- East/North Bay launching sites in Oakland (public transit accessible), Mill Valley and San Rafael

Community-based Restoration

- Hands-on restoration of wetland habitats
- Introduces the role of native plants in a healthy ecosystems and current issues affecting the health of the Bay
- Limited to 40 student participants; no fee
- East/North Bay locations include Oakland, Hayward and San Rafael

Watershed Education Program: 2006-07 Highlights

- 743 youth participants (38 classes) from underserved communities in Alameda, Marin and San Francisco served
- 304 students (16 classes) have participated in the full suite of education programs
- 500 students (22 classes) have participated in at least two components of our full suite

Watershed Education Program: 2006-07 Highlights II

- **Research project to match Save The Bay's Online Watershed Education Curriculum to California Curricular Standards by grade and subject matter**
 - Helping teachers pick lessons for their field trip that align with standards
 - Writing new lesson plans to teach some easy-to-reach standards
 - Train Save The Bay Educators on the basic flow of state science standards (e.g., seventh graders learn life science but not chemistry) and how to teach them
 - Produce a matrix for teachers that maps lessons to standards in a coherent, accurate, and easy-to-read way

Watershed Education Program: 2006-07 Program Evaluation

Evaluation Goals:

- 4 schools from target audience participating in full program suite complete pre/post field trip student assessments and post-field trip teacher questionnaire
- To assess the impact of full program suite participation on students and teachers

Data Collected:

- 2 classes underserved schools from target counties completed the pre/post field trip student assessments
- 9th – 12th grade students
- Total of 44 students participated in both field trips, 39 completed the pre/post field trip assessment

2006-07 Evaluation Results

Change in knowledge

- Good grasp of concepts such as watershed, estuary and the level of pollution in the Bay in the pre-trip assessment
- Gains in knowledge: plant/animal adaptation in tidal wetlands, wetland functions, placing their school on a SF Bay map

Change in behavior

- Slight increase in the post assessment for properly disposing trash

Change in attitudes

- **Care about the Bay:**
Students from school A did not display much difference between pre/post (a little); Students from school B increased from half to 2/3 in the post assessment
- **Pollution/conversation:**
students from both schools scored high in both, pre- and post-trip assessment

Lessons Learned

- Participation in full program suite challenging because of rising transportation costs; as a result, we included transportation stipend in our 07-08 NOAA B-wet grant
- Bringing the Bay closer to students' communities through a land-based hands-on environmental stewardship module
- Improved evaluation plan and instruments for 2007-08 informing setting strategic directions for education at Save The Bay

Teacher Professional Development 2007: Target Audience

Target Audience:

Middle and High School teachers from around the Bay Area who are interested in

- incorporating Bay and watershed education into their work
- addressing the California State content Standards, using the Bay as an integrating concept
- expanding and enhancing their curriculum to include Bay-related service-learning projects

Workshop & Institute

- ***Sloughs and Stewardship***

- Two-day introductory workshop to our programs and how to integrate the Bay into the classroom

- ***Gold Rush to the Golden Gate***

- One-week in-depth teacher institute, incorporating on-the-water experiences, expert speakers, hands-on activities and habitat restoration
- Learning about the history as well as ecology of the Bay watershed from it's source through the Delta and the Bay

2006-07 Accomplishments

Sloughs and Stewardship

17 teachers from Alameda, Marin, Santa Clara, San Francisco and San Mateo counties participated

Day 1: teachers explored the Palo Alto Baylands in canoes and got introduced to several water-based activities

Day 2: teachers learned about how to create a sustainable future for the Bay through wetland restoration

Gold Rush to Gold Country

15 teacher from the Bay Area participated in a two-week in-depth exploration of the history, ecology and geology of our Bay Area watershed in partnership with the Exploratorium in San Francisco. This partnership allowed teachers more time to plan their lessons for the next school ahead utilizing the Exploratorium's comprehensive resources.

Lessons Learned

- For 2008, Save The Bay will run the two-day introductory workshop renamed “Ecology in Education” (the teacher institute will not run this year)
- Throughout the last couple of years, Save The Bay had difficulties recruiting middle and high school teachers to participate in the workshop and institute
- We are planning to conduct an in-depth evaluation project to discern the future of Save The Bay’s teacher professional development offerings